

2016 NATIONAL MARINE SANCTUARIES RECREATIONAL FISHING SUMMIT: BREAKOUT GROUP NOTES

Wednesday, December 14-Thursaday, December 15, 2016

This document contains the notes from each breakout session and group, respectively, during the 2016 National Marine Sanctuaries Recreational Fishing Summit in Hollywood, Florida. As of December 15, 2016, the content herein has not been edited by the Department of Commerce or the National Oceanic and Atmospheric Administration, and should only be used for general, informational purposes in accordance with the call and objectives of the summit.

WEDNESDAY, DECEMBER 14, 2016

BREAKOUT ONE: IDENTIFYING COMMON PERCEPTIONS

GROUP ONE:

Perception of Sanctuaries and/or Fishing in Sanctuaries

- Misunderstanding of types and needs for MPAs, sanctuaries and regulations (generally little in the way of regs)
 - o Cannot fish in sanctuaries – don't want to go
 - o Confusion of state and federal/sanctuary-specific MPAs
 - o Need for communications, public engagement, outreach
 - Tricky to navigate ambiguous laws or situations on the water (can troll but no bottom fishing) – individuality with the sanctuaries, tried to meet the needs of the community, failure of communications
 - Frustration in being involved w/ sanctuaries when there isn't authority over fisheries – capability of comprehensive management
 - Preserve and maintain when balancing indigenous activities
 - Sanctuaries do not have support/staff for fisheries management – want to shut down stuff
 - Confusion for differentiation of types of MPAs
 - Not always adequate science, outreach or clearly defined origins/need of establishing and justifying each (political science takes over)
 - o Cataloging the history, science, and public need – survey of public understanding, need clear message and information to convince and justify
 - o No use of sunset deadlines and reporting (accountability) with good science, adaptive management, transparency – getting something back for setting aside certain areas
 - o Need to get information out before plans get proposed
 - ¼ think no fishing, ½ will research and go fishing,
 - o Sanctuary economics – recreational fishing is huge users/stakeholder/constituency
 - o No signage or comms to know boundaries, regs, access
 - DC/Washington is building its own federal government vs what will happen in the community, death of a thousand cuts for watermen
- Sanctuaries across different parts of the community (commercial, recreation, divers, spear fishers, bird watchers, etc)
- Fishers have more mistrust of MPAs than divers, birdwatchers, non-consumptive users

- Difference between commercial and rec fishers and medium/large (foreign) vessel access alongside smaller locals and subsistence – impacts to habitat
 - Perception of ulterior motives to protect shipwrecks for historical value in order to create authority to close off fishing areas, due away with working waterman
 - Stakeholder process can be un-level with non-governmental organizations (paid to be there) versus fishers needing to take time off/forgo business to be involved
 - Looking at other uses that are emerging (wind, tidal) and conserve
 - Diving and other non-consumptive users can have an impact
 - Sanctuaries support all closures (not always clear rationale or analysis)
- Role and Responsibility of SAC to Community Rep
- Need face-to-face interactions and involvement with community – need reps that have trust of community and not just certain sections
 - o Do representative seats actually represent actual people versus interests
 - o Does the composition of the SAC reflect community
 - Ensure community feels like voices are heard and conveyed by SAC
 - Process has been politicized – community and customers don't agree with process
 - o Constituents feel they don't have a voice in fisheries management
 - o Want more local control over fisheries management, but not in my backyard
 - COMMUNICATION AND OUTREACH - Subsistence fishers largely unheard from - need to reach through tackle shops (bottle neck to community versus the docks), feel they don't have political clout
 - o Taking away more than they are giving back (not welcoming)
 - o Role of getting users more aware, communications (not social media)
 - o Who is a trusted messenger? Trusted member of community, culture and language barriers
 - o Reach the next generation and other target groups in fishing contests and engagement to encourage fishing in sanctuaries (allowable and prohibited activities)
 - o NOAA/sanctuary also needs to advertise and develop programs, SAC and other meetings – SAC members do not have staff and need help
 - o “Sport fishing capital of the world...in a sanctuary” message does not get out there (tourism development council – hotels and other ways to reach visitors and tourists)
 - o Need signage at key areas (highway signs, sanctuary offices, boat ramps, welcome and opportunities to recreational fishers)
 - NOAA sanctuaries does not see themselves as antagonistic with fishing community (but rec community do have mistrust based on history)

Additional Notes

- MPAs can be beneficial, but in some cases were done badly (science, engagement, process, transparency)
- Relationships might have been good but changed with closures without science and engagement (not politics)
- Disconnect between NOAA's perception of mission and how it is seen by recreational anglers

GROUP TWO:

- Better communication between SAC and Superintendent on any plan concerning recreational fish before goes to SAC/NEFMC

- Need trust and communication
- Feel advisory council don't have full "say so" with vote ('neutered')
- Want to know where vote can be equal to superintendent
- Don't feel SAC vote counts – want to be binding
- Frustration/concern on changes in fishing with changes in forage fish/introduced species
- Suggest superintendent has annual meeting with recreational fishermen and agencies
- Superintendent and other managers reach out to guides/groups/associations
- Sanctuary should strive to inform the public and be proactive in reaching out
- Hard to get public involved early
- Perception that superintendent will do what they want *regardless of SAC vote*
- Inclusion—more weight to community knowledge and input
- "First draft vs Final draft"
- Need communication
- Encourage more of positive outreach like catch and release workshop/barotrauma workshops
- More trainings and workshops
- Incentivize recreational fishery community—what can ONMS do (e.g. blue angler program)?
- Fostering stakeholder participation

BREAKOUT TWO: IMPROVING COMMUNICATION AND ENGAGEMENT

GROUP ONE:

- How NOAA can better facilitate discussions among constituency and advisory council representatives; need to encourage reciprocal delivery of information from site to member, member to constituency, and constituency back to the site
- Look for ways to "incentivize" compliance with federal actions
- Clearly communicate stage of a federal action and opportunities for public comment
- Evaluate new avenues for communicating with recreational fishermen, looking at both different means to deliver that information and different types of media
- Use partners like friends' groups, NMFS port agents, etc.

Day 1 – Breakout 2 – Group 1

- Need to do a better job identifying Advisory Council representatives - and advertising how to get in contact with the constituent representatives
- Develop better ways to get in touch with the members
- Come back to fisherman with some way to relax regulations or incentive / some way to have a discussion where it doesn't feel like it is negative / find something positive to bring to rec fisherman
- Find a way to identify common ground and avoid the divide and conquer activity. Come together in one voice.
- Topics bring people to meetings –
- People should know they have a representative and should work to get information out and address misperception

- Need to get recreational people to show up to meetings – charter and commercial are engaged because it is their business and their financial interest
- Have a formal process for engagement with Superintendent (set meetings for outreach to fisherman)
- More use of media (social, print, radio)
- Be clear about expectations and make clear that just because someone provided input it may not necessarily be accepted (or legal).
- More communication between management / staff with fisherman before it gets discussed in front of councils. Outreach from superintendent to rep and outreach from the council rep to superintendent.
- Methods of communication: radio, magazines, VHF, social media, volunteers, get out to speak to groups
- How to set an agenda without it appearing like decision has already been made.
- Better communicate what stage a decision may be in process
- More upfront participation and communication in the process
- More outreach through “friends” group and volunteers..
- Send out flyers, posters / cards to fuel docks, boat ramps marinas with meeting events, websites,
- Use NMFS port agents for outreach

GROUP TWO:

- Need to develop a clear message, created with accurate information, and expand on ways to deliver it
- How can messages be crafted, particularly regarding the distinction between sanctuaries and other types of marine protected areas?
- Need to find means to communicate good/successful news and examples too, and not just new prohibitions and restrictions
- Recognize that advisory council members can only do so much, and should build on other partners, especially at the grassroots level, to develop and then maintain “buy in” (e.g., hire a marketing agency, look at successful examples from other agencies)
- Think about “why people should care about sanctuaries” and how to communicate that to different audiences

Improving Communication and Engagement

- Clear message; accurate information
- E-Newsletters
- Social media
- Flyers on cars in marinas
- Video that promotes/welcomes RecFishing (doesn’t exist)
- Need to craft “the message” – not enough just to say “...fishing is okay”
- Messaging
- Produce message pamphlet for tackle shop customers
- Engage professional marketing services to craft the message
- Communication of message is a steep climb; why?
- Culture of mistrust toward govt

- Fear of regulation (sanctuary creep/expansion)
- Understanding reasons for mistrust
- Positive stories that build trust (Key West dredging example)
- Message: distinguish between NMFS/ONMS/FMC
- Bad news travels fast; how best to advance good news/successes
- K-12 education
- Use innovative sources of funding, e.g., fish & game
- SAC as volunteers can only do so much
- Are there lessons learned from other agencies or campaigns that can be used
- How do we engage citizens who use/appreciate their sanctuary. Can they help get the message out?
- Snapshot videos of fishermen giving testimonials
- Listen to people's answer to the question: What does your sanctuary mean to you?
- Need "trusted sources" to get the message out

Parking Lot:

Clarify process for implementing fishing regs in NMS

BREAKOUT THREE: LEARNING FROM YOUR EXPERIENCE WITH NATIONAL MARINE SANCTUARIES

GROUP ONE:

-Above all, experiences should be once in a lifetime, memory creating moments that people cannot forget

Day 1 – B3 – Group 1

Objective: Identify things ONMS, and broader NOAA, can do to improve the experience of recreational anglers in national marine sanctuaries

- Describe a high quality fishing experience
 - o Good weather
 - o Good mix of fish
 - o Knowledge of where to go during the right time of year
 - o Relaxing day on the water
 - o Sunrise, whales, i.e., more than just fishing
 - o Bluefin, groundfish, shark fishing for "meat" customers
 - o Safe trip
 - o Getting other people out there to fish
 - o Fun
 - o Clean water
 - o Opportunity to fish when you want
 - o Opportunity to put something on the boat to bring home
- Do these experiences exist in Sanctuaries?
 - o Yes and no—depends on where within the sanctuary
 - o There's access to the sanctuary, but with stock/climate changes, the fishery isn't

always available

- o Facilitating the opportunity for customers/tourists to have a once-in-a-lifetime experience is what sanctuaries are about (seeing turtles, manta rays, whale sharks, whales, etc., along with fishing)
- What can NOAA do to improve those experiences or opportunities?
- o Get information out to the general public about what opportunities exist in the Sanctuaries
- o Promoting the whole package experience
- o Radio information channel advertised on sanctuary signs
- o Ensuring that Sanctuary staff are focusing on environmental issues (i.e., protecting the water/habitat/etc) and planning for the future, including planning for the increased usage of sanctuaries
- o Understanding the impacts of increased visitation; balancing the quality and the quantity of experiences
- o Collaborate with tourism development councils and tourism dependent businesses to highlight the sanctuary as the primary tourism draw
- o Incentivize catch and release/environmental stewardship
- How we do build on what's working well?
- o Expand information being captured and shared from weather/marker buoys
- o Promote education on resource identification
- o Promoting apps like FishRules App and other regulatory informational apps
- o Inclusion of Great Lakes in Sanctuary/NOAA lexicon/documents and promotions
RUSS! National Saltwater Recreational Fisheries Policy does not include Great Lakes
- o Enhance/promote mooring buoys for fishing/diving
- How do we better communicate about access, regulations, etc?
- o Consider mandatory visitor permits/reporting to understand number of visitors and impacts

GROUP TWO:

Breakout 3 – Group 2

Identify things ONMS and the broader NOAA can do to improve the experience of recreational anglers in national marine sanctuaries

- **What is your ideal of a recreational fishing experience in a sanctuary?**
 - o Catching a limit of a target species.
 - o Get rid of MPA's
 - o Clear regulations and clear demarcation of sanctuary and zones within sanctuary. Electronic and non-electronic means
 - o Diversity of types of fish plus observing rare wildlife
 - o Ability to experience rare and unique habitats within sanctuaries
 - o Increasing the amount of people who are aware of the special features in sanctuaries and educated about how to conserve and appreciate
 - o Feeling of an “escape” – possible to attract too many people to sanctuary?

- Would limited use of certified guides help preserve the “wild experience” in certain applications?
- Knowing that people had an enjoyable time doing what they intended to do – catch fish, enjoy the resource, come home happy.
- **Ways to improve experience in sanctuaries?**
 - Increase services and/or benefits for recreational anglers to make a difference and feel there is an impact i.e. more accurate weather buoys.
 - Prediction of “uncomfortable sea conditions” to help people find areas to recreate despite weather impacts
 - Increase habitat through private public partnerships to increase fishing opportunities
 - Visitor Centers
- **Collaborative possibilities**
 - Sanctuary Classic (youth photo fishing tournaments) to get people fishing in the sanctuaries
 - Share successful events with other sanctuaries – build off of the positive
 - Sanctuary sponsored fishing tournaments
 - Habitat Enhancement or Habitat Creation equal to or greater than closed areas as an offset
 - Increase and encourage cultural value of fishing and fishing guides. Sanctuary role to promote and support learning responsible fishing practices
 - Citizen Science programs more formal or more developed and increase in number
- **Youth specific efforts or programs**
 - Recreational Boating and Fishing Foundation
 - Beau Turner organization – focuses on the demographic of kids not exposed to the outdoors in urban communities and expose them to outdoor recreational opportunities
 - Fishing Future
 - Fishermen in Classrooms program – lost funding
- Do SAC members visit the Sanctuary offices?
 - Yes – 3 (but one location is hard to find)
 - No – 1 (location hard to access)
- Dedicated Mooring Buoys – Thoughts
 - Mixed opinions – fishing techniques, current conditions and bottom habitat varies that would not be applicable in all sanctuaries.
 - rec anglers

THURSDAY, DECEMBER 15, 2016

BREAKOUT FOUR: FOCUSING ON MANAGEMENT APPROACHES

GROUP ONE:

Objective: Identify ways to improve the recreational fishing experience in national marine sanctuaries through additional engagement in or the development of appropriate management approaches

What is meant by management? Broader than just regulations; it includes education, outreach, enforcement, research, etc.

- What can be done to achieve a high quality fishing experience?
- o TB- education programs involving kids (shipwreck alley), Every Kid in the Park (glass bottom boat tours of shipwrecks)
- o CI- NMS should not manage fish. Adversarial situation between rec fishermen and sanctuary scientists. Need more science focused on rec fishing issues. Some top down direction could be helpful to foster more collaborative interaction between sanctuary science staff and rec fishermen.
- § Academic research occurs in sanctuary with little or no knowledge of rec fishermen. They have not utilized the knowledge of rec fishermen in fine-tuning and implementing the research. If it's funded by NMSF than the SAC should know about it early on in the process.
- § Need better communication on what research is being done in sanctuary.
- § Need notification on use of research drones.
- o FGB- rec fishermen must have a say on how fisheries are managed. Rec fishermen should have a role in explaining ecosystem changes.
- o FK- more focused on habitat protection. Shouldn't support fishing tournaments. Other organizations can sponsor fishing events such as Guy Harvey Foundation
- o SB- lack good research on catch and release methods (hook types, minimize trauma). Could be some benefits from tournaments (science information, outreach). Need to engage the next generation in fishing. Too many species impacting forage fish- need research on forage fish and how they are impacted. Boston outfall discharge impacts on water quality needs to be investigated especially pharmaceuticals.
- o In TB there is an allowable cull of cormorants because of their impact on perch.
- o Seal populations are exploding and are having an impact on other populations (forage, etc.). Ecosystem based management is taking this into account.
- o Sanctuary should promote more research that benefits rec fishing and is used by appropriate fishery management agencies.
- Outreach
- o Outreach on catch and release methods (Plymouth forum was useful)
- Gulf Coast and Stellwagen Bank charter boat assoc. should expand and continue working with scientists to implement research projects. Sanctuary needs to proactively draw on the knowledge of rec fishermen.
- Need to engage private rec fishermen and boaters in implementing research projects.
- On the water observations: marine debris, how are they reported? Charter guys know who to call but what about private boaters? Fish Alert app is a potential solution but needs consistent funding. FK has Marine Ecosystem Response Assoc. (MERA).

GROUP TWO:

-Discussed how to not only perform management actions for recreational fishermen, but how to involve recreational fishermen in management actions

Breakout Session 4

Focusing on Management Approaches

Objective: Identify ways to improve the RecFish experience in NMS through additional engagement in or the development of appropriate management approaches.

- People were fishing in areas before they became sanctuaries
- Consider relaxing some rules as an outreach tool
- Give fishers an opportunity to speak and describe benefits
- Collaborate with NOAA Fisheries and use their “boots on the ground”
- Engage in blogs and other social media to relay recommendations and stories
- Senior leadership fishes too! (Sean fishes in tournaments)
- Combat negative public perception and informal engagement
- Distribute handout at docks
 - people in marina
 - signs w/
 - apps
- Show willingness to do something for fishers (not to us)
- Informal town halls
 - Prepare them for discussion
- MBNMS concern
 - loss of steelhead and salmon
 - is there a way sanctuary can become the “hero”
 - get involved in discussions with other stakeholder groups and offer solutions
- GRNMS
 - allow fishermen to create and manage habitat so it is managed well
 - remove invasive species
- Set up distinct rec/comm'l/no-take zones
 - will need to be artificial
- Help produce more seafood
- Set up boater’s license in FKNMS (voluntary/mandatory?)
 - boater education
- License w/stamps for parks
 - partner w/State
- Give out sanctuary information w/ fish and game measurements
- Increase the number and type of connections
- Have to find ways to benefit fishers and improve their livelihood
 - Important to relay the positive accomplishments
- Help them become organized to ensure productive dialogue
 - work with senior guides for examples of how to set up
- Available funding can be important

- Actively seek out co-sponsorships to encourage participation
- Don't be shy about asking sponsors to get products
- BayNet-like organization of rec anglers
 - utilize naturalists and anglers
- NMSF to host an event before a fishing tournament
 - include sanctuary leadership
- Include rec anglers in cooperative research (NOAA Fisheries has a program)
- Habitat collaboration
- Look for windows of opportunity (Gulf)
- Sanctuaries to be engaged in matters outside that are impacting resources and rec anglers
 - Sanctuary stand up and go to bat for rec anglers

BREAKOUT FIVE: FOCUSING ON TOOLS FOR RECREATIONAL ANGLERS

GROUP ONE:

BREAKOUT 5 Group 1

Objective – Identify and prioritize the tools or resources that could be provided to support recreational fishing and protect sanctuary resources

- How to be effective given limited resources?
- Word out – Fishing shows and seminars – bigger NOAA presence
- Videos – various topics like fishing techniques and methods
- Better coordination with ONMS and each site social media coordinator. Expand opportunities.
- Limited sharing of public videos
- Ex – Blue star operator video, SAC member video, etc (create an authorized list)
- Must be directly related to Sanctuaries – esp. as pertains to #'s
- Leverage social media members/followers for outreach (Gray's Reef Loggerhead project)
- Positive public relations effort with industry partners, to address misconceptions
- Online photo contest (one of many types of social media campaigns)
- Traditional media (TV, Print Media, Radio)
- Artist in Residency program – can that be expanded and crafted for each sanctuary? Ex. Hermitage Artist Retreat program
- Regulatory apps for mobile devices (ex. Fish Rules)
- Work with GOOGLE to update mapping for Sanctuaries (KMZ files) include special use areas to inform user of special regulations in special areas.
- App - Whale Alert – report live or dead whale sightings, for example
- Non electronic means of informing recreational anglers?
- Is there a “best way” to communicate to anglers?
- Anglers are too diverse to limit to one method or media type. No one “silver bullet”
- Charts are a common denominator for fishermen.
- Provide a better visual process of regulations in development and crucial timing event in the process for angler involvement.

GROUP TWO:

Objective: Identify and prioritize the tools or resources (e.g. mooring buoys, signs, apps) should be providing to support recreational anglers and protect sanctuary resources.

Tools that are currently in our tool box (or do we need):

(1) People are the most important tools to reach the breadth – **must be people recreational anglers trust**

- **Fish Alerts mobile app** (have and works) – **but needs to be a consistently funded** tool
- Positive **stories**
- **Brochures**/handouts
- **Rack cards**
- **Fishing publications**
- **Mooring buoys**
- **Signs**
- **Connect** rec fishers **with ONMS website** and associated communication groups
- Consider **using FishRules** to **collect data** or connect apps with **Fisheries Management Councils** (check to make sure fishermen do/will use them)
- Produce **materials** to take to **tackle shops and tradeshow**
- Produce **materials specific to recreational anglers** (laminated and UV protection) also distribute at shops and lodges
- **Newsletter** for recreational anglers – types of fish, areas, fish boards (weights for on-going competitions), **calendar of events, SAC meeting schedule, science on types of fish**, current situation, general information about sanctuaries – **HQ to develop template** for all councils/sites (similar to **Monterey Dive Newsletter**) – **be mindful** of who will develop, time commitment and costs
- Include **logo on marina signs** and have **presence at marina or weigh stations**
- Include signage with **sanctuary boundaries** (delineates area)
- Get materials to **NOAA Fisheries to print**
- Look further into **placement of signs**
- **Promotional materials** for **hotels and tourist attractions** that connects sanctuary information and recreational fishing.

What is the message? Question that has to be answered before you can determine the proper tool to use.

BREAKOUT SIX: IDENTIFYING SCIENCE COLLABORATIONS

GROUP ONE:

IDENTIFYING POTENTIAL SCIENCE COLLABORATIONS

Citizen Science, research and technology with national marine sanctuaries

- CITIZEN SCIENCE
- (PL - Ciguatera Research)
- Website is available for more information
- Training anglers to be certified
- Subsistence anglers (youth) to be included for any component that would encourage future participation.
- Engagement opportunity
- Use fishermen's information to help frame studies and sampling design
- Angler participation carries heavy weight in grant review process
- Lionfish removal could be an area of increased collaboration
- ECONOMIC ANGLER IMPACTS and RESEARCH
- Some studies have been conducted in Am. Samoa., RSMAS and BTT did a bonefish valuation study in FKNMS.
- Citizen science fish counts
- MARFIN projects – high quality presentations and information – SATL. and GOM.
- Spawning aggregations – known or unknown? Need more science or no? Am. Samoa has some data but need to identify sources (NPS and NMFS).
- Science conducted in sanctuaries can help inform proper fisheries management.
- Shipwrecks or cultural resources as fish habitat?
- Increased research on variety of artificial materials as beneficial fish habitat. Test new methods
- Seasonal population dynamics on various habitat (natural and artificial)
- Some constituencies would like to start dialogue on responsible artificial habitat creation focused on recreational fishing opportunities in sanctuaries
- Analysis or proper handling and release methods and outreach
- Angler participation in tagging studies
- Barotrauma and recompression methodologies and survival rates
- Increase opportunities for recreational anglers to observe on ride along day trips on research vessels
- RFWG – Newly created Gray's Reef Recreational Fishing Working Group- interesting in improving relations with recreational anglers
- Funding data and opportunities due out soon from MPA FAC
- New advancements in technology that can benefit recreational anglers?
- Can research be specifically directed towards the recreational angling community?
- NFWF as a funding opportunity

GROUP TWO:

Objective

Identify and discuss potential science collaborations, including citizen science, research and technology within national marine sanctuaries.

Questions

Are recreational anglers interested in collaborating on science initiatives in national marine sanctuaries?

If so, are they most interested in citizen science, research or technology?

What is it about citizen science [for example] that makes them want to be involved?

How should we go about establishing these programs?

How do we engage more recreational anglers in existing or new programs?

Will these programs help build trust? Or are there other steps (like those we've talked about previously) we need to take first?

Discussion

- Consider using a research advisory panel or similar issue-based working groups to engage in and determine appropriate collaborations or address issues.
 - o How many advisory councils (sites) have a research advisory panel (e.g., MBNMS RAP)?
 - o *Response:* There are a limited number of these types of panels or working groups, but a number of advisory councils establish working groups that are issue based to address research/science related questions.
 - o Composed of advisory council members and subject matter experts (e.g., academics)
- Encourage national marine sanctuaries to work with recreational anglers to understand their interests and knowledgebase in addressing specific issues, such as discard, mortality and reduction data and decisions.
- ONMS should help promote discussions to understand recreational fishing-related science needs.
- Incentivize collaborative research (e.g., lake trout tagging = \$10/fish tagged and release, limestone reefs).
- Consider integrating national marine sanctuaries and advisory council members in MREP.
 - o M. Kelly has spoken with G. Bottitta-Williams about this.
 - o NMSF and NOAA Fisheries partner to host through the Gulf of Maine research; and it's recently been expanded to the west coast.
 - o It's meant to be by fishermen for fishermen.
 - o Identify funds so can continue to develop this program, including on the west coast and possibly a comparable program in the Great Lakes.
- Encourage more research on non-traditional, off-water predators (e.g., cormorants).
 - o Consider developing bite-size proposals for MSA funding for \$50-100k.
- There is resistance to cooperating with NOAA Fisheries and ONMS since fearful of how data will be used against (rather than in support of) them.
 - o Address concerns about industry-data being used against them.
 - o Offer assurance that data will not come back to negatively impact them.
 - o Consider using a third party to collect or compile this type of information.
 - o Don't want to talk about where fish go, what catch, etc.
- Only want to provide the minimal data, like that which is requested on Vessel Trip Report (VTR). Provide statistical area and representative area as requested, but don't want to provide other private//proprietary data.
 - o There are tradeoffs here because it is difficult to assess where actually fishing and, therefore, where should or shouldn't be closed (because we can think it's appropriate for you but you say that's where we fish).
 - o Larger issue when don't provide accurate information.

- o Transitioning into electronic log books.
- o Electronic VTRs will be great because they don't have to report to multiple offices; it will do it for them.
- o Commercial fishermen can be required to report additional information depending on the fishery (VTR and VMS).
- Ensure there is mutual benefit from data collections. Development of technology, such as apps, where the data collected is beneficial to the fisherman (e.g., log of what caught where and additional information, like water temperature, etc. that manually input) and shared or kept private as they so choose.
 - o e.g., iSnapper and iAngler
 - o Have used spatial data in some of these to modify stock assessments.
 - o Need to evaluate these success stories to use elsewhere or learn from (e.g., State not reporting the same catch/landing as that found on iSnapper).
 - o Smithsonian has developed apps for underdeveloped countries, but recreational anglers have been requesting this for some time.
- Incorporate appropriate data into management/science as quickly as possible (complimentary data)
 - o Funding – How do we incorporate data from new sources? e.g., no more excuses on multiple studied projects.
- Cross-agency collaboration and validation of science (e.g., Smithsonian landings app in developing countries)
- What percentage of population are recreational anglers? And what percentage of those are “regular” anglers that would use these apps?
- Need to be careful not to inundate the apps; don't be redundant.
- Stop piloting these initiatives/actions; start using this data!
- Electronic monitoring; facial recognition software for identifying fish (e.g., using video instead of a human observer)
- Better socioeconomic research (\$ impacts in sanctuaries)
 - o What data are you collecting on visitors and uses?
 - o There is an interest in collecting data relative to visitors, where they are coming from, where money is being spent, how long staying, etc.
 - o Who is fishing? Where are they fishing? What is being fished?
- National marine sanctuaries should consider doing a better job assessing the stocks/fish within their waters. They should expand their efforts beyond coral, etc. to include these types of assessments.
- Consider refining fishing and socioeconomic data so it's specific to national marine sanctuaries (e.g., like from regional to HMS and then down to sanctuary).
 - o Need to collect data down to the appropriate scale; current collections aren't at the right scale for national marine sanctuaries.
 - o They do have multipliers for broader impact when include hotels, airlines, gas, etc.
- Dockside interviews (Captain fills out VTR) – Family interviewed doesn't appropriately report what they threw back; may over or underestimate.
- More rapid responses to potential lost fishing opportunities.
- Better understanding of community impacts from collective “government” actions (finer scale data)

- Inventory of recreational angler infrastructure/apps/signal strength (don't turn off location services; native to phone and then uploads once back on WiFi or cellular service)
- Do not attempt to solve the whole problem; work on smaller bite-size programs.